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A CASE STUDY

India towards achieving MDG : Combat HIV/AIDS

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ABSTRACT : Worldwide, the number of people newly infected with HIV continues to fall, dropping 21 per cent from 2001 to 2011. Still, an estimated 2.5 million people were infected with HIV in 2011—most of them (1.8 million) in sub-Saharan Africa. Over a decade, new infections in that region fell by 25 per cent. They dropped by 43 per cent in the Caribbean, the sharpest decline of any region, resulting in an estimated 13,000 new infections in 2011. About 820,000 women and men aged 15 to 24 were newly infected with HIV in 2011 in low- and middle income countries; more than 60 per cent of them were women. According to NFHS-3 the revised HIV estimate of 2.47 million persons in India living with HIV (equivalent to 0.36% of the adult population) was released by NACO in July, 2007. This national estimate reflects the availability of improved data rather than a substantial decrease in actual HIV prevalence in India. HIV/AIDS was first identified in India in 1986, the Government of India (GOI) initiated a systematic response by first establishing the National AIDS Committee (NAC) and then, in 1992, the National AIDS Control Organization (NACO) under the Ministry of Health and Family Welfare. Since then, comprehensive educational and awareness programmes have been implemented with mandates to increase prevention and control of HIV/AIDS in India.

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The past 10 years have seen unprecedented commitments to global health and development, beginning in 2000 with the commitments in the United Nations Millennium Declaration that became known as the Millennium Development Goals with their corresponding set of time-bound targets. At the 2001 United Nations General Assembly Special Session on HIV/AIDS, United Nations Member States made pledges for a comprehensive response to HIV in the Declaration of Commitment on HIV/AIDS, and expanded those commitments in the Political Declaration on HIV/AIDS adopted in 2006, including a commitment to achieve universal access to HIV prevention, treatment, care and support for all in need. A rapid expansion in HIV services and dedicated AIDS financing paralleled these developments, with commitments rising from US$ 1600 million in 2001 to US$ 15 900 million in 2009, including substantial financing from the United States' President's Emergency Plan for AIDS Relief, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and other bilateral, multilateral and domestic sources. The results have been remarkable :

–The number of new HIV infections globally declined 19 per cent over the past

decade. In 15 high burden countries HIV prevalence declined more than 25 per cent among young people aged 15-24 years. These declines are largely attributable to expanded, improved HIV programmes

–Access to antiretroviral therapy in low- and middle-income countries increased from only 400 000 people receiving such therapy in 2003 to 5.25 million by the end of 2009 (comprising 35% of those estimated to be in need)

–AIDS-related deaths dropped by 19 per cent globally over the period 2004 to 2009 alone.

–Significant reductions in the price of first-line antiretroviral medicines mean that low-income countries can provide a year of antiretroviral therapy at a median cost of US$ 137 per person

–53 per cent of pregnant women living with HIV had access to antiretroviral medicines to prevent transmission of HIV to their infants, up from 45 per cent in 2008.

HIV/AIDS knowledge and sexual behaviour :

Although the spread of HIV/AIDS is a major concern in India, only 61 per cent of women age 15-49 and 84 per cent of men age 15-49 have heard of AIDS. While awareness of AIDS has increased over time among both rural and urban women, awareness still remains low among women who are not regularly exposed to media, scheduled-tribe women, women with no education, women living in households with a low standard of living, and rural women.

Approximately 4 in 10 women and 7 in 10 men know each of the three ABC methods of prevention-abstinence, being faithful and condoms. Knowledge of each prevention method rises with increasing education and wealth. Women and men with regular exposure to mass media are twice as likely to know each of the three methods of prevention as do adults without access to media.

Nationwide, only 17 per cent of women and 33 per cent of men have 'comprehensive knowledge' of HIV/AIDS. 'Comprehensive knowledge' means they know that a healthy-looking person can have HIV, that HIV/AIDS cannot be transmitted through mosquito bites or by sharing food, and that condom use and fidelity help prevent HIV/AIDS. Knowledge about HIV/AIDS is relatively widespread in Mizoram (where two-thirds of both women and men have comprehensive knowledge of HIV/AIDS) and in Delhi and Manipur (where more than two in five women and three in five men have comprehensive knowledge). At the other extreme, in Assam, West Bengal, and Meghalaya, less than 15 per cent of men-and even fewer women- have comprehensive knowledge of HIV/AIDS.

Misconceptions about HIV/AIDS are common. Only 38 per cent of women and 61 per cent of men know that a healthy-looking person can have HIV/AIDS. About two-thirds of women and half of men erroneously believe that HIV/AIDS can be transmitted by mosquito bites. Larger proportions of women and men are aware that HIV/AIDS cannot be transmitted by hugging someone who has AIDS (43 and 64%, respectively) and by sharing food with a person who has HIV/AIDS. However, only a minority of women (31%) and men (45%) reject all three misconceptions.

Less than half of women age 15-49 (47%) and almost two-thirds of men (63%) know that HIV can be transmitted from a mother to her baby, but only one-fifth of women and men know that the risk of such transmission can be reduced with the use of certain drugs. Particularly notable is the comparatively low level of knowledge of transmission from a mother to her child even among currently pregnant women. Only 40 per cent of currently pregnant women know that HIV/AIDS can be transmitted from a mother to her child and only 15 per cent are aware that transmission from a mother to her baby can be reduced by taking certain drugs.

About three out of four women and men are willing to take care of a relative sick with HIV/AIDS in their own household and to allow a female teacher with HIV/AIDS who is not sick to continue teaching; less than two-thirds are willing to buy fresh vegetables from a vegetable seller who has HIV/AIDS. About two-thirds of women (64%) and men (65%) say that they would not want to keep secret that a family member was infected with HIV/AIDS. The percentage expressing accepting attitudes on all four of these indicators is low (34% among women and 37% among men).

Only 3 per cent of women and 4 per cent of men had ever been tested for HIV and some who were tested did not get the result of the test. The proportion of women age 15-49 who had ever been tested for HIV/AIDS and got the results ranges from only 0.2 per cent in Rajasthan to 15 per cent in Goa. Coverage of HIV/AIDS testing among men reveals a similar variation across states, with

Table 1 : Core indicators for global AIDS response

Targets	Indicators
Target 1. Reduce sexual transmission of HIV by 50% by 2015	*General population:* Percentage of young women and men aged 15–24 who correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission•
	Percentage of young women and men aged 15-24 who have had sexual intercourse before the age of 15
	Percentage of adults aged 15–49 who have had sexual intercourse with more than one partner in the past 12 months
	Percentage of adults aged 15–49 who had more than one sexual partner in the past 12 months who report the use of a condom during their last intercourse•
	Percentage of women and men aged 15-49 who received an HIV test in the past 12 months and know their results
	Percentage of young people aged 15-24 who are living with HIV•
	Sex workers : Percentage of sex workers reached with HIV prevention programmes
	Percentage of sex workers reporting the use of a condom with their most recent client
	Percentage of sex workers who have received an HIV test in the past 12 months and know their results
	Percentage of sex workers who are living with HIV
	Men who have sex with men: Percentage of men who have sex with men reached with HIV prevention programmes
	Percentage of men reporting the use of a condom the last time they had anal sex with a male partner
	Percentage of men who have sex with men that have received an HIV test in the past 12 months and know their results
	Percentage of men who have sex with men who are living with HIV
Target 2. Reduce transmission of HIV among people who inject drugs by 50% by 2015	Number of syringes distributed per person who injects drugs per year by needle and syringe programmes
	Percentage of people who inject drugs who report the use of a condom at last sexual intercourse
	Percentage of people who inject drugs who reported using sterile injecting equipment the last time they injected
	Percentage of people who inject drugs that have received an HIV test in the past 12 months and know their results
	Percentage of people who inject drugs who are living with HIV
Target 3. Eliminate new HIV infections among children by 2015 and substantially reduce AIDS-related maternal deaths••	Percentage of HIV-positive pregnant women who receive antiretrovirals to reduce the risk of mother-to-child transmission
	Percentage of women living with HIV receiving antiretroviral medicines for themselves or their infants during breastfeeding
	Percentage of infants born to HIV-positive women receiving a virological test for HIV within 2 months of birth
	Estimated percentage of child HIV infections from HIV-positive women delivering in the past 12 months
Target 4. Reach 15 million people living with HIV with lifesaving antiretroviral treatment by 2015	Percentage of adults and children currently receiving antiretroviral therapy*
	Percentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy
Target 5. Reduce tuberculosis deaths in people living with HIV by 50% by 2015	Percentage of estimated HIV-positive incident TB cases that received treatment for both TB and HIV
Target 6. Close the global AIDS resource gap by 2015 and reach annual global investment of US$ 22–24 billion in low- and middle-income countries	Domestic and international AIDS spending by categories and financing sources
Target 7. Eliminating gender inequalities	Proportion of ever-married or partnered women aged 15-49 who experienced physical or sexual violence from a male intimate partner in the past 12 months
Target 8. Eliminating stigma and discrimination	Discriminatory attitudes towards people living with HIV
Target 9. Strengthening HIV integration	Current school attendance among orphans and non-orphans aged 10–14•
	Proportion of the poorest households who received external economic support in the last 3 months

• Millennium Development Goals indicator •• The *Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive* defines this target as:
–Reduce the number of new HIV infections among children by 90% –Reduce the number of AIDS-related maternal deaths by 50%

a minimum in Rajasthan, Assam, Uttar Pradesh and Meghalaya (1% each) and a maximum in Goa (14%).

Nationally, 4 per cent of women and 3 per cent of men age 15-49 have ever received a blood transfusion. Women are somewhat more likely than men to have received at least one injection (39% and 36%, respectively) given by health personnel in the 12 months preceding the survey. The average number of injections received from health personnel was 2.1 among women and 1.8 among men.

Prevalence of HIV/AIDS :

NFHS-3 indicate that 0.28 per cent of adults age 15-49 are infected with HIV. The HIV prevalence rate is 0.22 per cent for women and 0.36 per cent for men age 15-49. The confidence intervals for the above estimates are 0.23-0.33 for adults, 0.17-0.27 for women and 0.28-0.43 for men. The female-to-male infection ratio of 0.61 is consistent with NACO's estimated 2005 female-to-male ratio of 0.62 for adults living with HIV (NACO, 2006). The NFHS-3 female-to-male ratio is somewhat higher in urban areas (0.71) than in rural areas (0.56). The HIV prevalence rate is 40 per cent higher in urban areas than in rural areas (61% higher in urban areas than in rural areas for women and 28% higher for men). HIV prevalence rates are higher for men than for women in every age group except age 15-19, where the rates are very low overall. Women and men have similar age patterns, with HIV prevalence increasing with age up through age 30-34 and generally decreasing with age, thereafter. At age 30-34, 0.45 per cent of women and 0.64 per cent of men are HIV positive.

HIV prevalence by demographic characteristics :

The relationships between HIV prevalence and a number of other socio-demographic characteristics. As expected, marital status is closely related to HIV prevalence. HIV prevalence is very low for women and men who have never been married. The highest rates of HIV prevalence are for women and men who are divorced, separated, or deserted and for women who are widowed, although the precision of the estimates for these groups is low due to the small number of cases. It is not unusual, however, to see relatively high HIV prevalence among widows because in some cases their husbands have probably died from AIDS related causes. Men who are away from home frequently or for long periods of time are generally thought to be more exposed to the risk of HIV infection because they may be more likely to adopt high-risk sexual behaviour when they are away from home. The HIV prevalence rate is about average for women who received ANC, but not in a government health facility. Among women who used government facilities for antenatal care, HIV prevalence is higher for women who went to government/municipal hospitals (0.11%) than for women who accessed other types of government health facilities (0.04%).

HIV prevalence by sexual behaviour :

HIV prevalence at age 15-49 among those who have ever had sex is 0.26 per cent for women and 0.46 per cent for men. HIV prevalence is not strongly related to the age at first sexual intercourse for women, but men who first had sex before age 16 have lower HIV prevalence than those who first had sex at older ages. For women, HIV prevalence is high (2.23%) for the small number of women who report higher-risk sexual behaviour in the past 12 months (that is, sex with a man who was not their husband and who did not live with them). Men who have two or more sexual partners in the past 12 months have a much higher HIV prevalence (0.70%) than men with only one sexual partner (0.43%). For women, HIV prevalence increases from 0.25 per cent for those who have had one lifetime sexual partner to 0.98 per cent for those with two partners, and further to 3.15 per cent for the small number of women with 3-4 lifetime partners. HIV prevalence also increases rapidly with the number of lifetime sexual partners for men, from 0.39 per cent for men with one partner to 1.15 per cent for those with 5-9 partners, before declining to 0.37 per cent for small number of men with 10 or more partners. Men who paid for sex at least once in the past 12 months are much more likely to be HIV positive (0.96%) than those who did not pay for sex (0.45%). However, among those who paid for sex, only those who used a condom the last time they paid for sex had a higher HIV prevalence, perhaps because those who knew they were HIV positive were more likely to use a condom.

HIV prevalence by state :

HIV prevalence for each of six states (Andhra Pradesh, Karnataka, Maharashtra, Manipur, Tamil Nadu, and Uttar Pradesh) and groups of states. Among the six states for which HIV prevalence estimates can be

calculated, the highest prevalence is in Manipur (1.13%). In Manipur, 0.76 per cent of women and 1.59 per cent of men age 15-49 are HIV positive. The second highest HIV prevalence rates are found in Andhra Pradesh (0.75% for women, 1.22% for men and 0.97% overall). These states are followed by Karnataka (0.69%) and Maharashtra (0.62%). The HIV prevalence rate in Tamil Nadu is only slightly higher than the national average, although the rate for women is much higher than the national average and the rate for men is somewhat lower than the national average. The lower rate for Tamil Nadu is also consistent with the decreasing level of HIV prevalence that has been found in the ANC surveillance estimates for Tamil Nadu in recent years (NACO, 2006). In Andhra Pradesh, Karnataka and Maharashtra, the ratio of female to male HIV prevalence is almost identical (0.61-0.64). The ratio drops to 0.48 in Manipur. Tamil Nadu is the only high prevalence state in which HIV prevalence is higher for women than for men. HIV prevalence for the five high HIV prevalence states combined is 0.67 per cent (0.55% for women and 0.82 % for men). For the remaining 23 states (excluding Nagaland), HIV prevalence is only 0.12 per cent (0.08 % for women and 0.16% for men). HIV is rare in Uttar Pradesh, where only 0.07 per cent of adults age 15-49 are HIV positive. The HIV prevalence rate for women in Uttar Pradesh is half the HIV prevalence rate for men. For the five high HIV prevalence states and Uttar Pradesh combined, 0.47 per cent of women and men are HIV positive.

HIV prevalence among couples and young people :

Both partners were HIV negative for 99.50 per cent of couples and both partners were HIV positive for 0.11 per cent of couples. HIV positivity for both partners is highest when the man is 15 or more years older than his wife. Discordant cases are highest when the man is 10-14 years older than his wife. HIV prevalence overall is lowest when the woman is older than her husband. HIV prevalence is lower among young persons (age 15-24) than among persons in any other age group. Very few women or men age 15-17 are HIV positive and HIV prevalence remains low at age 18-19. Among youth, HIV prevalence is highest for women age 20-22 and for men age 23-24. For young women and young men, HIV prevalence is higher in urban areas than in rural areas. The HIV prevalence rate is highest (1.9%) among the small number of young women who are divorced, separated, or widowed. Even among women and men who never had sex, there are a few HIV positive cases.

Future directions to combat HIV/AIDS2.1 global vision:

Zero new HIV infections, zero AIDS-related deaths and zero discrimination in a world where people living with HIV are able to live long, healthy lives.

The two overarching goals of the future directions are:

–To achieve universal access to comprehensive HIV prevention, treatment and care

–To contribute to achieving Millennium Development Goal 6 (Combat HIV/AIDS, malaria and other diseases) and other health-related Goals (3,4,5 and 8) and associated targets.

The three targets for 2015, aimed at accelerating progress towards the strategy's goals, are:

Reduce new infections:

Reduce by 50 per cent the percentage of young people aged 15–24 years who are infected (compared with a 2009 baseline).

Eliminate new HIV infections in children :

Reduce new HIV infections in children by 90 per cent (compared with a 2009 baseline).

Reduce HIV-related mortality :

Reduce HIV-related deaths by 25 per cent (compared with a 2009 baseline)

Strategic directions :

The health sector response to HIV should follow four mutually-supportive strategic directions, outlined below with their objectives. These are aimed at achieving the above targets and goals over the five years of the strategy. Each content area is subdivided into recommended country action and WHO's contribution to support that action.

Strategic direction 1: Optimize HIV prevention, diagnosis, treatment and care outcomes :

Expanding coverage and improving the quality of HIV prevention, diagnosis, treatment and care interventions are required to achieve global goals and

targets. HIV incidence is falling in many countries, but is increasing in others. National HIV responses must target high-quality, evidence-based HIV-specific prevention interventions to where transmission is actually occurring and focus efforts on key populations underserved by current HIV programmes. Improved integration of HIV and non-HIV health services, radical decentralization of service delivery, and improvements in medicines, diagnostics and other components of HIV treatment and care will also be crucial for accelerating progress towards national and global targets. Recent population based health surveys suggest that less than 40 per cent of people living with HIV know their HIV status. Providing accessible, quality-assured testing, counselling and referral services to relevant populations and removing HIV-related stigmatization and discrimination are essential for improving knowledge of serostatus.Strategic direction 1 has four core elements:

– Revolutionize HIV prevention
– Eliminate HIV infections in children
– Catalyse the next phase of diagnosis, treatment, care and support
– Provide comprehensive, integrated services for key populations.

Strategic direction 2: Leverage broader health outcomes through HIV responses :

Optimizing programme links between HIV and other key health areas is crucial for leveraging broader health outcomes. Such links are also important to ensure that HIV responses benefit from investments in other related health areas. HIV infection accounts for 6 per cent of maternal mortality worldwide, with a recent study indicating that figure may be as high as 18 per cent. Globally, less than a third of children under 15 years of age in need are receiving antiretroviral therapy, reflecting a lack of integration between HIV services and maternal, newborn and child health services. HIV is closely linked with a wide range of other health issues, such as sexually transmitted infections, broader sexual and reproductive health, drug dependence, tuberculosis and blood safety. These links must be reflected in the delivery of health services in order to optimize investments in a range of health areas. Increasing numbers of drug users living with HIV are receiving antiretroviral therapy but dying of complications from hepatitis C or of drug overdoses. Young people must have access to education on sex and sexuality to ensure they have comprehensive, correct knowledge about HIV; currently it remains low. The safety of the blood supply remains a significant concern; only 48 per cent of blood donations in low-income countries underwent quality-assured screening in 2009. HIV transmission in health-care settings will remain a major risk without adequate investment in blood-screening services, injection and surgical safety and other occupational health measures.

Strategic direction 3: Build strong and sustainable systems :

HIV programmes have helped to strengthen national health systems by attracting new financing for health, building health system capacity (e.g. through improved monitoring and surveillance) and integrating chronic disease management in many resource-limited settings. However, more must be done to ensure that HIV related investments translate into broad-based health systems and strengthening of community systems. An expanded HIV response must accelerate progress on building effective, efficient and comprehensive health systems in which HIV and other essential services are available, accessible and affordable, within which the increasingly vital role of community based services is recognized and supported. Recent evidence demonstrates the consequences of weak health systems:

38 per cent of low- and middle-income countries experienced stock-outs of antiretroviral medicines in health facilities at least once in 2009, highlighting weak procurement and supply management systems.

Access to affordable HIV-related medicines may be hampered by failure to use the flexibilities built into the World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), limited availability of some generic medicines and formulations, weak price negotiation capacity in procurement systems and high duties and taxes.

Task-shifting approaches have helped to reduce the shortage of health workers in many countries, but ensuring quality, safety and motivation of those workers remains a challenge

Introducing new regimens for antiretroviral therapy, together with the need to monitor HIV drug resistance

and toxicity, places additional demands on clinical and laboratory services.

Strengthen the six building blocks of health systems :

National HIV responses can further strengthen the six building blocks of health systems :

– Effective service delivery
– A well-trained, sufficiently-staffed workforce
– A robust health-information system
– Access to essential medical products and technologies
– Adequate health financing
– Strong leadership and governance.

Strategic direction 4: Reduce vulnerability and remove structural barriers to accessing services :

The health sector plays an essential role in reducing HIV vulnerability, reducing HIV-related stigmatization and discrimination and removing structural barriers to accessing HIV services. The HIV response has been a public health trailblazer in promoting human rights, mobilizing communities, contributing to health equity and addressing social determinants of health. Removing gender-based health inequities and protecting the rights of people living with HIV and key populations are crucial steps to achieving universal access goals and health-related Millennium Development Goal targets. Gender-based health inequities and human rights protections for women, girls and key populations have not been adequately dealt with in national HIV responses to date. The most recent country progress reports indicate the following:

Less than half the countries have a budget for HIV-related programmes that aim at women and girls.

67 per cent of countries have laws, policies or regulations that posed obstacles to effective HIV service provision for key populations.

The people living with HIV Stigma index (results from 10 countries) indicates high rates of physical and verbal abuse experienced by people living with HIV, among which a significant proportion (from 12% to 88%) were denied access to health services. Not only must specific interventions be implemented in the health sector, but policies and programmes in other sectors must be revised to reduce gender-based inequities and ensure human rights protections for key populations. The health sector also has an important role to play in providing evidence on the links between gender equity, human rights, the social determinants of health and HIV. These elements should be covered in the design, implementation and monitoring of health sector interventions. Key elements are:

– Promote gender equality and remove harmful gender norms.

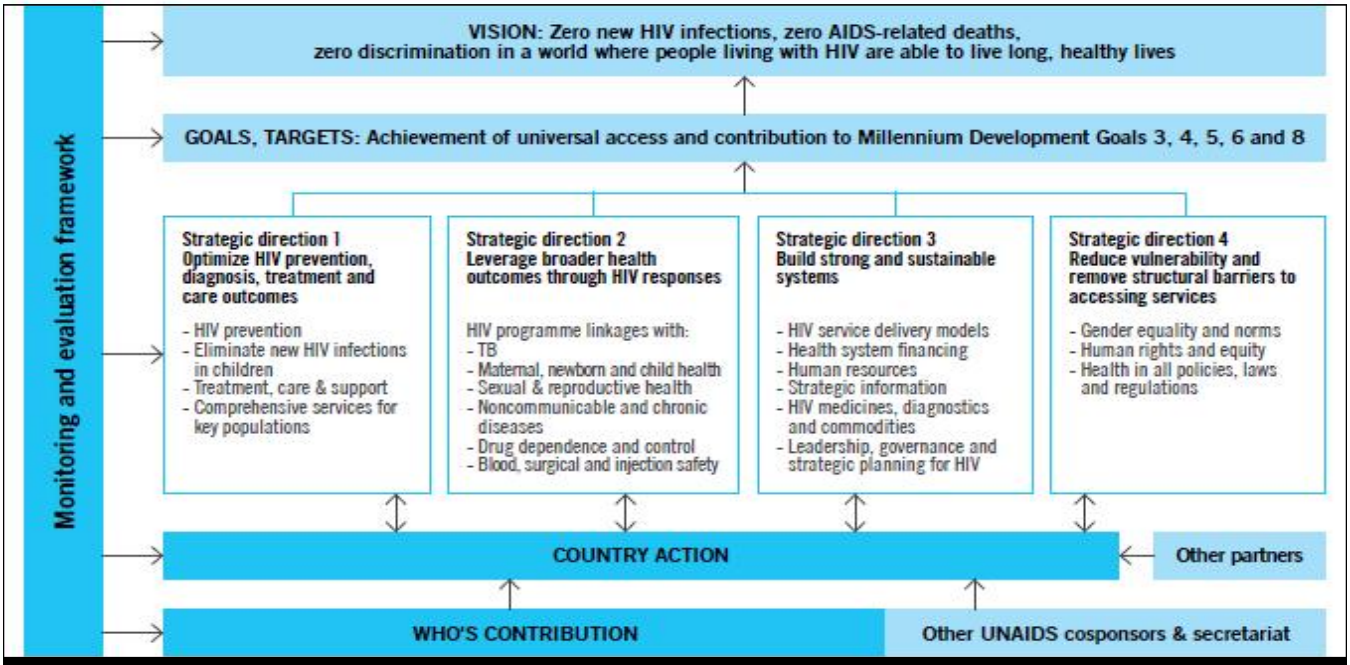

Fig. 1 : Summary of the global health-sector strategy for HIV/AIDS, 2011-2015

– Advance human rights and promote health equity

–Ensure health in all policies, laws and regulations.

The achievements of the global HIV response over the last 10 years have been extraordinary. The incidence of HIV infection declined by more than 25 per cent between 2001 and 2009 in 33 countries and the HIV prevalence among young pregnant women attending antenatal clinics has declined by 25 per cent or more in 7 countries (UNAIDS 2010). At the end of 2010, more than 6.6 million people were receiving antiretroviral therapy in low- and middle-income countries, a 16-fold increase from the approximately 400 000 people recorded in December 2003. Forty eight low- and middle-income countries now provide antiretroviral therapy to more than 50 per cent of adults in need, including 10 countries with universal access and about 50 per cent of pregnant women received the most effective regimens to prevent the mother-to-child transmission of HIV in 2010. As a result of these efforts, the annual number of AIDS-related deaths worldwide has fallen from the peak of 2.2 million recorded in 2005 to an estimated 1.8 million in 2010. Nevertheless, the global HIV response has seldom been better positioned to address these challenges. The year 2011 has brought new political momentum and important scientific breakthroughs have been announced. The recent United Nations General Assembly High Level Meeting on AIDS (United Nations, 2011) has regalvanized partners and its final Declaration fully recognizes the central role of universal access to HIV prevention, treatment, care and support services in achieving the full range of the Millennium Development Goals. It provides a clear framework to deliver on ambitious, yet feasible, time-bound goals by 2015, including reducing sexual transmission by 50 per cent, cutting in half the number of people living with HIV dying from TB and providing antiretroviral therapy to at least 15 million people who need it. The international community has also developed and endorsed a detailed, action-oriented global plan to support the elimination of the mother-to-child transmission of HIV and improve maternal health by 2015 (UNAIDS, 2011). Similar work related to the present topic was also done by Vijayalakshmi and Emmanuel (2014); Rani and Arora (2014) and Baruah (2013).

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